

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311081

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P311081
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6704.0 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

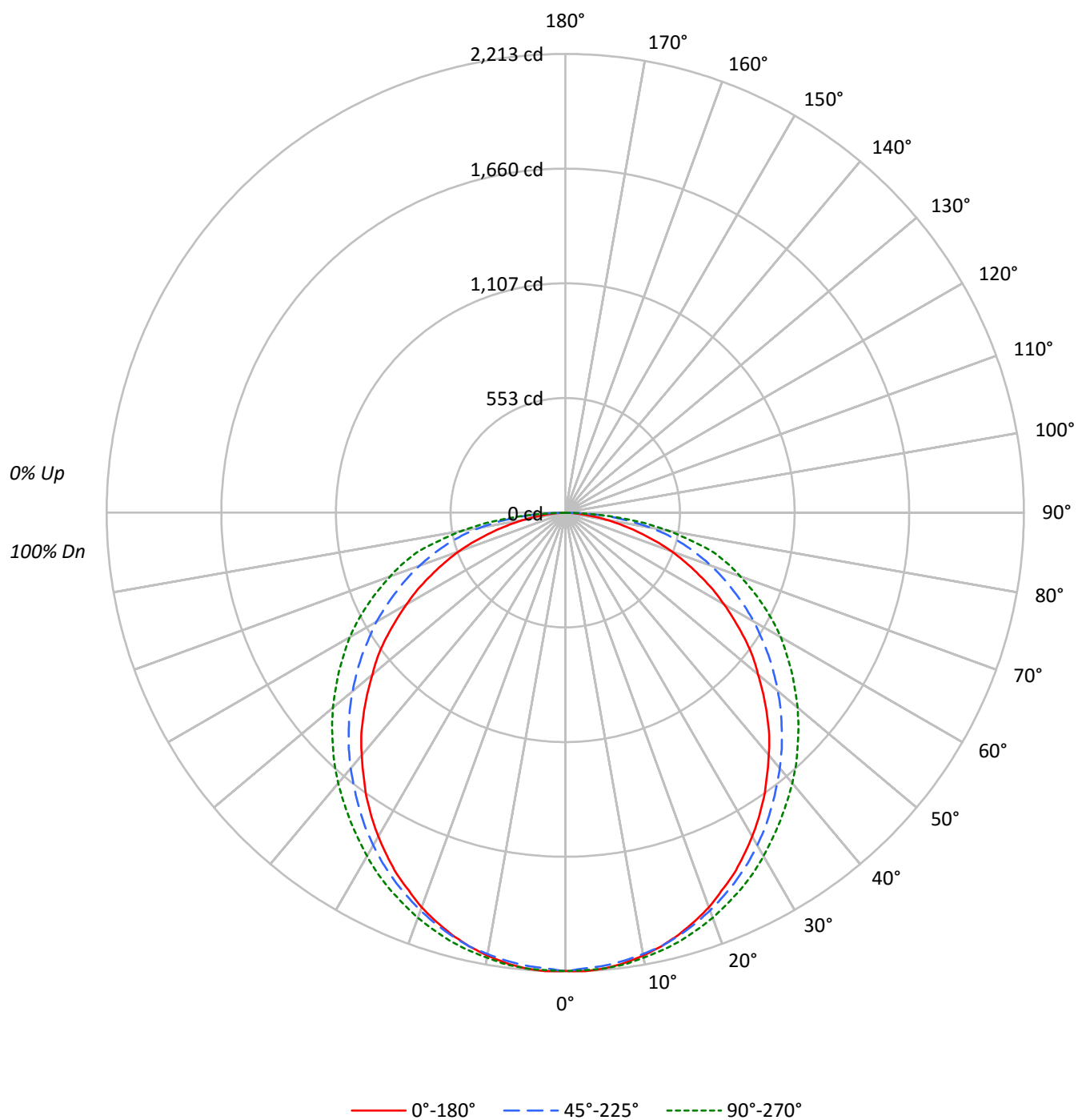
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2975	2975	2975
5°	2980	2962	2980
10°	2963	2954	2978
15°	2937	2943	2981
20°	2901	2924	2978
25°	2856	2903	2975
30°	2803	2879	2972
35°	2747	2850	2974
40°	2684	2829	2993
45°	2620	2810	3018
50°	2542	2803	3064
55°	2478	2807	3125
60°	2382	2831	3232
65°	2273	2861	3350
70°	2153	2949	3535
75°	1919	3076	3862
80°	1637	3257	3947
85°	1167	3228	3778



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.2	3.1
10°-20°	598.3	8.9
20°-30°	903.7	13.5
30°-40°	1089.1	16.2
40°-50°	1143.4	17.1
50°-60°	1069.7	16.0
60°-70°	883.4	13.2
70°-80°	602.0	9.0
80°-90°	205.3	3.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1711.2	25.5
0°-40°	2800.3	41.8
0°-60°	5013.4	74.8
0°-90°	6704.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6704.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2211	2211	2211	2211	2211	
5°	2206	2204	2193	2206	2206	209
15°	2109	2111	2113	2135	2140	594
25°	1924	1933	1955	1993	2004	885
35°	1673	1690	1735	1793	1811	1045
45°	1377	1406	1477	1557	1586	1062
55°	1056	1099	1197	1294	1332	943
65°	714	774	899	1012	1052	708
75°	369	454	592	703	743	394
85°	76	149	209	236	245	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2210.9	2210.9	2210.9	2210.9	2210.9
2.5°	2213.1	2210.9	2199.8	2210.9	2208.7
5°	2206.5	2204.2	2193.1	2206.5	2206.5
7.5°	2190.9	2190.9	2179.8	2195.4	2197.6
10°	2168.7	2168.7	2162.0	2179.8	2179.8
12.5°	2142.0	2142.0	2142.0	2159.8	2162.0
15°	2108.6	2110.8	2113.1	2135.3	2139.7
17.5°	2068.6	2073.0	2079.7	2106.4	2110.8
20°	2026.3	2030.8	2041.9	2073.0	2079.7
22.5°	1972.9	1984.0	1999.6	2035.2	2041.9
25°	1924.0	1932.9	1955.1	1992.9	2004.1
27.5°	1863.9	1877.3	1906.2	1946.2	1961.8
30°	1803.9	1817.2	1852.8	1899.5	1912.9
32.5°	1739.4	1759.4	1797.2	1846.1	1861.7
35°	1672.6	1690.4	1734.9	1792.8	1810.6
37.5°	1599.2	1623.7	1672.6	1734.9	1757.2
40°	1528.1	1554.8	1610.4	1677.1	1703.8
42.5°	1456.9	1483.6	1545.9	1621.5	1648.2
45°	1376.8	1405.7	1476.9	1557.0	1585.9
47.5°	1296.7	1332.3	1410.2	1494.7	1525.8
50°	1214.4	1254.5	1339.0	1428.0	1463.6
52.5°	1141.0	1178.9	1267.8	1363.5	1396.8
55°	1056.5	1098.8	1196.7	1294.5	1332.3
57.5°	969.8	1016.5	1121.0	1227.8	1265.6
60°	885.3	936.4	1052.1	1158.8	1201.1
62.5°	803.0	854.1	974.2	1085.4	1127.7
65°	714.0	774.0	898.6	1012.0	1052.1
67.5°	629.5	694.0	825.2	936.4	976.5
70°	547.2	609.4	749.6	858.6	898.6
72.5°	458.2	529.4	669.5	782.9	825.2
75°	369.2	453.8	591.7	702.9	742.9
77.5°	286.9	373.7	511.6	602.8	622.8
80°	211.3	300.3	420.4	484.9	509.4
82.5°	135.7	224.7	320.3	367.0	387.0
85°	75.6	149.0	209.1	235.8	244.7
87.5°	31.1	64.5	84.5	95.6	95.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)